



GLAST Monthly PSR

Spacecraft

Joy Bretthauer
Observatory Manager

- 1



Accomplishments

- ▶ **3/5/03: Spectrum directed to proceed w/non-ICCR PDR baseline**
- ▶ **3/6 – 3/13: Developed non-ICCR, S/C PDR baseline**
 - Optical Bench Peer Review: project concurrence to proceed w/baseline;
 - 6 week delay in SAI's C&DH/EPS critical path
- ▶ **S/C Manufacturing Activity**
 - First EM LCBs (for the EM PDU) Have Been Assembled, But With Some Parts Shortages
 - EM PRU Regulator Will Enter Manufacturing When PWBs Arrive
 - EM GDEs, BBBs, More LCBs Expected to Start Assembly by End of March



Accomplishments

► **Special Studies Identified:**

- Implement risk reduction tasks necessary through S/C CDR (enables continuous coverage with GLAST-knowledgeabl staff from SAI)
 - Ku-band:
 - MECO: Craig-Bampton out to 175 Hz
 - Observatory Pointing Verification: (Structural Thermal Gamma ray) STGR analysis

► **Contract Mods completed for:**

- SSR memory; GBM SIIS/LVDS; CCRs for delivery order documents;

► **Provided POP budget inputs FY03 – FY07**

- Included Flight connectors\fasteners, Higher Fidelity MOC Training Simulator, S/C Testing w/Instrument EMs after S/C I&T, Ku-band modification, Enhanced Observatory Pointing Knowledge verification testing, on-site resident @ SAI,

► **Provided SC inputs for the Code 400 QED**



GFE to S/C (1)



Description	Rcvg. Engineer	Status	Date Del. To Contractor
Flight LAT (w/ thermal blankets)	Zitek		Sep-05
LAT GSE (electrical & mechanical)	Zitek		Sep-05
LAT Flight Connectors (TBD, s/c side of interface)	Zitek		8/03 (TBR)
GBM Flight Connectors (TBD, s/c side of interface)	Zitek		8/03 (TBR)
Flight GBM (with thermal blankets for detectors)	Zitek		Aug-05
LV Mating Connectors	Pinkerton		MCDR - 3 Months
LAT Thermal Model (electronic) Preliminary/Final	Gilchrist	LAT memo tells us to use their PDR model	MPDR - 2 Months PMCDR - 2 Months F Inst T/V Test + 2 Months C
LAT FEM Model (electronic) Preliminary/Final	Bottlinger	Received 1/13/03	9/02 (TBR) P6/03 (TBR) F6/05 C
LAT STEP (electronic) Preliminary/Final	Dow	Received 3 models recd from LAT, not GFE	SRR - 1 Month PMPDR - 2 Months - Due 2/8/03 FMCDR - 2 Months C
LAT Mass Simulator information (mass properties only)	Dow		MCDR - 2 Months
GBM GSE (electrical & mechanical)	Zitek		Aug-05
GBM Thermal Model (electronic) Preliminary/Final	Gilchrist	Received 1/14/03	MPDR - 2 Months PMCDR - 2 Months FInst. T/V Test + 2 Months C
GBM FEM Model (electronic) Preliminary/Final	Bottlinger	Received	9/02 (TBR) P6/03 (TBR) F6/05 (TBR) C FEM
GBM Thermal & Mass Models (physical)	Gilchrist, Dow		MCDR + 2 Months



GFE to S/C (2)



Description	Rcvg. Engineer	Status	Date Del. To Contractor
Observatory level sine sweep test input as a result of CLA(see CDRL 1)	Zitek		MCDR + 4 Months
LAT Radiation Source Survey	Zitek		With LAT
GBM Radiation Source Survey	Zitek		With GBM
LV Drill Template	Dow		MCDR - 4 Months
LV Test Payload Attachment Fitting (PAF)	Dow		MCDR + 2 Months and PER - Month
LV Flight PAF	Dow		PER - 1 month
GSE PAF	Dow		MCDR - 4 Months
LAT Instrument-Spacecraft Simulator	Zitek		MCDR + 3 Months
GBM Instrument -Spacecraft Simulator	Zitek		MCDR + 3 Months
GBM power-supply load Simulator	Pinkerton		MCDR + 3 Months
Observatory Processing Facilities at the Launch Site	Zitek		L - 2 months
LAT & GBM final inputs to LAT & GBM ICDs deliverable to be developed from prioritized list	Morse	GBM on track, see Issues for LAT	MPDR - 1 month
LAT Safety input to LV Documentation Preliminary/Final	Hunley		MCDR - 2 Months P IRR - 2 months F
NASA Ground Station Compatibility Equipment	Zitek		Oct-04
NASA Authorization for all Uplink and Downlink Frequencies	Carlson		Apr-03
Use of NASA GN to Support ETE and On-Orbit Operations	Zitek		Oct-04
Use of NASA SN to Support ETE and On-Orbit Operations	Zitek		Oct-04
Ground Communication Links Connecting to the necessary Facilities	Zitek		Oct-04
LAT Instrument I&T and Launch Support	Zitek		IRR
GBM Instrument I&T and Launch Support	Zitek		IRR
LAT Instrument support to develop Observatory test procedures	Zitek		IRR-2 Months
GBM Instrument support to develop Observatory test procedures	Zitek		IRR - 2 Months



GFE to S/C (3)



Description	Rcvg. Engineer	Status	Date Del. To Contractor
LV Coupled Loads Analysis results	Bottlinger	Overall CLA schedule is under review.	1/03 P (TBR) 10/03 F (TBR) 10/05 C (TBR)
TDRSS Ranging Services (return of raw ranging data and reformatting to suit the contractor's OD system; not included as GFE - extensive analysis and product creation for normal operations and special situations (maneuvers) and distribution of the data by FDF)	Zitek		N/A
Mission Operations team (assumes team will be available for training/simulations 1 (TBR) year prior to launch)	Lewis		Launch
Ground Systems training (government provided MOC)	Lewis		L - 12 months
Launch Vehicle	Zitek		L - 1 month
Return Shipment of LAT & GBM GSE (post-launch)	Zitek		Oct-06
Reassemble and Check Out of LAT & GBM GSE after shipment (post arrival at SC contract facility, post arrival @ Cape Canaveral)	Zitek		GBM 8/05 and 8/06LAT 9/05 and 8/06
TURFTS	Zitek		Apr-04
Definition of X-Band Center Frequency	Carlson		May-03



Accomplishments



CDRL	Next Due	Status	Comments
DID-H-S/C & Obs I&T Plan-Initial	Delivered	Delivered	Pre-ICCR Submittal
DID-I-Obs Perfrmnce Verification Pln-Initial	Delivered	Delivered	Pre-ICCR Submittal
DID33-Definition of LAT Pwr Feeds- Re-scheduled Final	01/31/03	Expect to Cancel	
IT Security Plan	Delivered	Released	
DID-D2-Prelim Hazard Analysis (PHA)-Prelim	Delivered	Delivered	
DID-F-Debris Generation Analysis Report-Initial	PDR	In-Progress	Need to Remove ICCR Con Ops
DID-J-EMI Control Plan (EMICP)-Initial	PDR	In-Progress	Depends on EMI Requirements
DID-M-As-Designed/As-Blt PMLP Lists-Initial	PDR	In-Progress	Released, Need to Remove ICCR
DID-P-Obs Contam Cntrl Plan (CCP)-Initial	PDR-30	In-Progress	In Signature
DID-Q-FMEA & Critical Items List (CIL)-Initial	PDR	In-Progress	Released, Need to Remove ICCR
DID-R-Probblstc Risk Assessmnt (PRA)-PRA Plan	Delivered	Delivered	
DID-S-Relblty Assessment & Predctn-Initial	PDR	In-Progress	Released, Need to Remove ICCR
DID-T-Fault Tree Analysis (FTA)-Initial	PDR	In-Progress	In Signature, Need to Remove ICCR
DID21-FSW Review Pkgs-PDR	PDR	In-Progress	
DID1-Extrnl Intrfaces Mdls/Anlysis-Prelim Struct-PDR	PDR	In-Progress	
DID1-Extrnl Intrfaces Mdls/Anlysis-Prelim Thermal	PDR	In-Progress	
DID2-Instrmnt Intrface Cntrl Docs (ICDs)-Prelim	PDR	In-Progress	
DID4-Obs-Grnd Ntwrk Intrfce Cntrl Doc-Prelim	PDR	In-Progress	
DID12-Sw Management Plan (SMP)-Final	PDR	In-Progress	
DID13-SW Reqrmnts Spec (SRS)-Final	PDR	In-Progress	
DID15-SW Test Pkg (STP)-Pln Draft	PDR	In-Progress	
DID30-GLAST Project Control Plan-Prelim	PDR	In-Progress	
DID32-GN&C Detailed Dsgn Doc-Prelim	PDR	In-Progress	



Issues/Problems

- ▶ Analysis & Verification of Observatory Pointing Knowledge
- ▶ Slew Rate Requirements not being met with 1, failed reaction wheel
- ▶ Instrument ICD inputs: not sufficient to have 4/25 ICD deliveries w/o TBDs/TBRs
- ▶ Instrument GFE not getting project review: LAT STEP (preliminary-3 models received), LAT Thermal model (PDR model)
- ▶ Project Contamination Control Plan: non-existent; draft in-progress; basis of other spacecraft requirements per S/C MAR
- ▶ Systems Engineering Staffing @ SAI: requires additional manpower to support design trades, ROMs, special studies, etc.

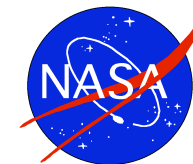


Upcoming Events



▶ <u>Milestone Date</u>	<u>Baseline</u>	<u>Non-ICCR Working</u>
▶ SCPDR	Feb 25, 03	May 5, 03
▶ SCCDR	Nov 17, 03	Feb 9, 04
▶ Bus I&T Start	Jul 1, 04	Aug 16, 04
▶ Bus I&T Complete	Dec 14, 04	Feb 15, 05

▶ IRR and Later Milestones Expected to Be Unaffected
▶ Detailed Schedule Buildup Still to Be Performed
▶ C&DH and EPS Development Are the Pacing Activities
▶ Dates for Payment Milestones Need to Be Updated
– PDR Payment Milestone Has Moved Out Two Months



Upcoming Events

▶ Jan 28	<i>ICCR Reqs Peer Review</i>	<i>GPO in Gilbert</i>
▶ Jan 29	<i>MPSR 3</i>	<i>GPO in Gilbert</i>
▶ Feb 25	<i>MPSR 4</i>	<i>GPO in Gilbert</i>
▶ Mar 20	<i>MPSR 5</i>	<i>Telecon</i>
<hr/>		
▶ Apr 21-24	PDR Dry Run 2	Gilbert/Telecon
▶ May 5-7	SCPDR	Gilbert
▶ May 8	FSPDR	Gilbert
▶ June 3,4	MPDR/NAR	GSFC
▶ TBD	MIWG (Spectrum sugg. Date)	KSC
▶ Feb 2004	SCCDR/FSCDR	Gilbert
▶ TBD	MCDR	GSFC



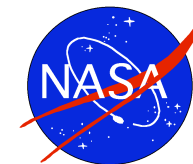
Upcoming Events

- ▶ SRR RFA close-out w/project review to satisfy milestone S/C PDR milestone payment
- ▶ CDRL approvals via CCB (Obs I&T, #33, FSW pre-lim(12,13), various S&MA)
- ▶ Options to Exercise:
 - #6: Battery Life Test (in-progress)
- ▶ **Systems Engineering Staffing**
 - Jim Howe is Now Full Time on GLAST (Fulfilled His Final SBIRS Duties)
 - 2nd SE is TBD
 - Role Has Been Filled Temporarily by a Combination of Scott Fallek and Larry Edgett
 - Long Term Will Be Filled by New Hire (Actively Interviewing Candidates)



S/C Delivery Order Options

Option Number	Option Name	Option Exercise By Date	Option Decision	Rationale
1	3 Month Instrument Delivery Delay with 90-Day Concurrent Launch Delay Option	60 Days Prior to GFE Instrument Delivery Date		
2	12 Months of FSW Maintenance Including Documentation	90 Days Prior to Launch or Each Subsequent Option Period End Date		
3	Current Conditioning for GBM Instrument	30 Days Prior to SRR	Not going to be exercised	
4	12 Months of Training Simulator Maintenance Including Documentation Option	90 Days Prior to Launch		
5	Increase Reliability for Controlled Re-entry	30 Days Prior to SRR	Not going to be exercised	
6	Battery Lift Test Option	30 Days Prior to MCDR	Exercise: In-progress	
7	Delete Autonomous Re-pointing	30 Days After SRR	Not going to be exercised	
8	Delete MOC Training Simulator	Option will only be exercised with Option 13	Not going to be exercised	
9a	Independent Safe Mode Processor	30 Days Prior to SRR	Option Date Missed; CO sent an email to the Ktr on 11/1 to determine the latest date the option can be exercised w/o a price or schedule impact.	CO sent an email to the Ktr on 11/1 to determine the latest date the option can be exercised w/o a price or schedule impact.
9b	Software Augmentation for Safe Mode Independence	Included in Spectrum's Baseline Design		
10a	15 MHz X-Band Downlink Bandwidth	60 Days Prior to MCDR	Not going to be exercised	
10b	20 MHz X-Band Downlink Bandwidth	60 Days Prior to MCDR	Exercise	
11	Intentionally Left Blank		N/A	
12	Extended Mission Lifetime: Mission Operations for up to 5 Years	6 Notice Prior to the Previous Five Year Mission Goal	Not going to be exercised	



Rolling Wave Schedule

Activity ID	Activity Description	Start Date	Finish Date
Spacecraft			
Spacecraft Development			
Spacecraft Top-Level Development/Milestones			
0037	S/C Vendor Selection	30AUG02	30AUG02
0043	S/C System Requirements Definition	03SEP02	19NOV02
0496	S/C Kickoff Meeting	25SEP02	26SEP02
0139	S/C SRR	20NOV02	21NOV02
0097	S/C Development (Preliminary System Design)	22NOV02	28APR03
0115	Spacecraft PDR	29APR03	30APR03
0094	S/C Development (Detailed System Design)	20MAY03	12JAN04
0046	S/C Component Fab & Test - SUMM	13JAN04	25AUG04
0553	S/C Bus Prep and Harness Integration-SUMM	01JUL04	17SEP04
0555	Flight Structure Ready For Bus I&T		25AUG04
1294	S/C Bus Eng Model Integration-SUMM	20SEP04	01OCT04
0565	S/C Bus EPS Integration-SUMM	04OCT04	14OCT04
0568	S/C Bus C&DH & SSR Integration_SUMM	15OCT04	26OCT04
1300	S/C Bus TT&C Integration-SUMM	27OCT04	15NOV04
1303	S/C Bus Propulsion Subsystem Integration-SUMM	12NOV04	18NOV04
1297	S/C Bus ACS Integration-SUMM	16NOV04	16DEC04
1306	S/C Full Bus Functional Testing-SUMM	22DEC04	10FEB05
0052	S/C Bus Ready for Observatory I&T		23FEB05

Start Date 03APR03

Finish Date 22DEC06

Data Date 01MAR03

Run Date 02APR03 08:11

Early Bar

Progress Bar

Critical Activity

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Sheet 1A of 1E

**GLAST Project Summary
Schedule - Spacecraft
Top-Level Tasks
for PSR - 4/2/03**

Date	Revision	Checked	Approved

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Rolling Wave Schedule



Activity ID	Activity Description	Start	Finish	JAN	FEB	MAR	APR	MAY	JUN	2003 JUL	AUG	SEP	OCT	NOV	DEC
Spacecraft															
Spacecraft Development															
Spacecraft Top-Level Development/Milestones															
0097	S/C Development (Preliminary System Design)	22NOV02	28APR03												
0115	Spacecraft PDR	29APR03	30APR03												
0094	S/C Development (Detailed System Design)	20MAY03	12JAN04												
GFE Deliveries to Spacecraft															
1321	LAT Flight Connectors Delivery to Spectrum	01AUG03	01AUG03												
1324	GBM Flight Connectors Delivery to Spectrum	01AUG03	01AUG03												
1351	LAT Final Inputs to LAT ICD	07MAR03	07MAR03												
1354	GBM Final Inputs to GBM ICD	07MAR03	07MAR03												
1357	LAT Safety Input to LV Doc Prelim	15OCT03	15OCT03												
1369	CDR Version of LAT Thermal Math Model	17SEP03	17SEP03												
1372	CDR Version of GBM Thermal Math Model	17SEP03	17SEP03												
1387	Final Version of LAT Finite Element Model	16JUN03	16JUN03												
1390	Final Version of GBM Finite Element Model	16JUN03	16JUN03												
1405	PDR Version of LAT STEP	07MAR03	07MAR03												
1408	CDR Version of LAT STEP	15OCT03	15OCT03												
1411	LAT Mass Simulator Information	15OCT03	15OCT03												
1447	LV Coupled Loads Analysis Results (Prelim)	10APR03	10APR03												
1450	LV Drill Template	15AUG03	15AUG03												
1453	GSE PAF	15AUG03	15AUG03												
1456	LV Mating Connectors	15AUG03	15AUG03												
1459	LV Coupled Loads Analysis Results (Final)	15OCT03	15OCT03												
1477	NASA Authorization - Uplink/Downlink Freq's	01APR03	01APR03												
1480	Definition of X-Band Center Frequency	01MAY03	01MAY03												
Spacecraft Systems Engineering															
1507	Systems Engineering PEER Review	06AUG03	07AUG03												
1513	GN&C PEER Review	11AUG03	12AUG03												
1516	Structures/MGSE PEER Review	13AUG03	13AUG03												
1519	Thermal PEER Review	14AUG03	14AUG03												
1522	EPS PEER Review	15AUG03	18AUG03												
1525	TT&C PEER Review	19AUG03	19AUG03												
1528	EGSE/ SIM PEER Review	20AUG03	20AUG03												
1531	C&DH PEER Review	21AUG03	22AUG03												
1534	FSW PEER Review	25AUG03	25AUG03												
1510	Propulsion PEER Review	15OCT03	15OCT03												
1546	Incorporate Rev's to Preliminary LAT ICD (DID2)	03MAR03	28MAR03												
1548	Final Review & Signature on LAT ICD (DID2)	31MAR03	18APR03												
1550	Final Doc Control Activities (DID2)	21APR03	25APR03												
1552	Submit Final LAT ICD (DID2)	25APR03	25APR03												
Start Date 03APR00				GL02											
Finish Date 22DEC06				Sheet 1 of 7											
Data Date 01MAR03				GLAST Project Summary											
Run Date 01APR03 17:16				Schedule - Spacecraft											
				PSR Draft											
				4/2/03											
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				Date Revision Checked Approved											



Rolling Wave Schedule

Activity ID	Activity Description	Start	Finish	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1562	Incorporate Rev's to Preliminary GBM ICD (DID2)	03MAR03	28MAR03												
1564	Final Review & Signature on GBM ICD (DID2)	31MAR03	18APR03												
1566	Final Doc Control Activities (DID2)	21APR03	25APR03												
1568	Submit Final GBM ICD (DID2)	25APR03	25APR03												
1576	Final Review & Signatures on Initial CCP	17MAR03	21MAR03												
1578	Submit Observatory CCP-Initial	21MAR03	21MAR03												
1580	Incorporate Revisions to Observatory CCP	16JUN03	05SEP03												
1582	Final Review & Signatures on Final CCP	08SEP03	26SEP03												
1584	Submit Observatory CCP-Final	26SEP03	26SEP03												
Spacecraft Structure & Mechanisms (SMS)															
1586	Optical Bench Preliminary Design	01MAY03	22JUL03												
1588	Optical Bench Detail Design	23JUL03	14OCT03												
1590	Complete Optical Bench Part Drawings	15OCT03	28OCT03												
1592	Fabricate Parts for Optical Bench	29OCT03	06JAN04												
1604	Complete/Finalize Flight Structure Bus Config	17NOV03	28NOV03												
1606	Complete Primary Structure Drawings	01DEC03	12DEC03												
1608	Complete Secondary Structure Drawings	01DEC03	12DEC03												
1610	Complete Flight Structure Mass Model Drawings	15DEC03	23DEC03												
1612	Complete Flight Structure Top-Level Assy Drws	15DEC03	06FEB04												
1614	Fabricate Primary Structure Parts	15DEC03	20FEB04												
1616	Fabricate Secondary Structure Parts	15DEC03	20FEB04												
1650	X-Band Antenna Boom Detailed Design	18FEB03	28MAR03												
1653	X-Band Antenna Boom Parts/Assy Analysis	31MAR03	09MAY03												
1656	X-Band Antenna Boom Release Hinge & R&R Drws	12MAY03	03JUL03												
1662	X-Band Antenna Boom Release Assy Drawings	07JUL03	18JUL03												
1665	X-Band Antenna Boom Procure Hinge, R&R Parts	21JUL03	19SEP03												
1671	X-Band Antenna Boom Assem Mechs to Test Booms	03DEC03	08DEC03												
1674	X-Band Antenna Boom Torque Tests on Hinge Assys	09DEC03	15DEC03												
1677	X-Band Antenna Boom Procurement	16DEC03	17FEB04												
1713	Develop Flight Solar Array ICD	04NOV02	21MAR03												
2376	Flight Solar Array Hinge Parts Analysis	18FEB03	07MAR03												
1746	Flight Solar Array Release Yoke Coupon Drawings	10MAR03	14MAR03												
1725	Flight Solar Array Release Root Hinge & R&R Drws	10MAR03	04APR03												
1749	Flight Solar Array Build Yoke Coupons	17MAR03	25APR03												
1728	Flight Solar Array Release Hinge/R&R Test Setup	07APR03	18APR03												
1731	Flight Solar Array Procure Root Hinge R&R Parts	07APR03	30MAY03												
1734	Flight Solar Array Procure Hinge/R&R Test Setup	21APR03	16MAY03												
1752	Flight Solar Arrays Test Yoke Coupons	28APR03	30APR03												
1755	Release Flight Solar Array Assy Drawings	29MAY03	25JUN03												
1737	Flight Solar Array Build Root Hinge & RR Stack	02JUN03	06JUN03												
1740	Flight Solar Array Build Test Setup	09JUN03	11JUN03												
1743	Flight Solar Array Functional Tests	12JUN03	25JUN03												
1758	Procure Parts for One Wing of Flight SAs	26JUN03	27AUG03												
2379	Build Mechanisms for Flight SAs (One Wing)	28AUG03	10SEP03												
2514	Build Flight Solar Array with Test Panels	11SEP03	01OCT03												
2517	Perform Kinematic Tests on Flight SAs	02OCT03	08OCT03												
2535	Update Flight SA Drawings	09OCT03	05NOV03												
2547	Procure 2nd Set of Flight SA Mechanisms	06NOV03	07JAN04												
2544	Procure Flight Solar Array Substrates	20NOV03	24MAR04												
1785	Develop CM Structure Design	03SEP03	02OCT03												
1788	Develop CM Comp Mockup Designs	19SEP03	16OCT03												
1791	Fab Structure Components for Cable Mockup	03OCT03	26NOV03												
1794	Fab Component Mockups for Cable Mockup	09OCT03	26NOV03												
1797	Assemble Cable Mockup	28NOV03	11DEC03												
1800	Install Components for Cable Mockup	12DEC03	18DEC03												



Rolling Wave Schedule

Activity ID	Activity Description	Start PDR	Finish	JAN	FEB	MAR	APR	MAY	JUN	2003 JUL	AUG	SEP	OCT	NOV	DEC
1803	Cable Mockup Complete		18DEC03												
1830	S/C Receive Preliminary CLA Report from KSC	22APR03	22APR03												
1833	S/C Create Preliminary CLA Report	23APR03	06MAY03												
1836	S/C Receive Detailed CLA Results from KSC	02JUL03	02JUL03												
1839	S/C Update CLA Report	03JUL03	17JUL03												
1842	Update S/C Model to PDR-Level Design	18JUL03	28AUG03												
1845	S/C Receive LAT CB Mod & LTM from GSFC Contract	04NOV03	04NOV03												
1848	S/C Receive GBM FEM from GSFC	01DEC03	01DEC03												
1851	S/C Develop Observatory CB/LTM	02DEC03	08JAN04												
2022	Procure Main PDU Chassis EM Parts	01APR03	23MAY03												
2025	Assemble PDU EM Chassis	27MAY03	02JUN03												
2040	PRU Chassis Detail Design	24FEB03	13MAR03												
2043	Complete PRU Chassis Drawings	31MAR03	11APR03												
2046	Procure Main PRU Chassis EM Parts	14APR03	30MAY03												
2049	Assemble PRU EM Chassis	02JUN03	04JUN03												
2133	Complete PRU Chassis Final Design	08DEC03	23DEC03												
2064	IEM Chassis Detail Design Changes	16DEC02	14MAY03												
2067	Complete IEM Chassis Drawings	03JUL03	24JUL03												
2070	Procure IEM Chassis EM Parts	25JUL03	19SEP03												
2073	Assemble IEM EM Chassis	22SEP03	26SEP03												
2076	IEM EM Chassis Ready		26SEP03												
2079	Complete Final Flight IEM Chassis Design	08DEC03	15JAN04												
2088	Design Integration Stand/Dolly	03MAR03	30APR03												
2091	Analyze Integration Stand/Dolly	01APR03	30APR03												
2094	Procure Integration Stand/Dolly	01MAY03	09JUL03												
2097	Integration Stand/Dolly Ready	10JUL03	10JUL03												
2100	Structure Tooling Preliminary Design	02SEP03	30SEP03												
2103	Analyze Structure Tooling	01OCT03	28OCT03												
2553	Structure Tooling Final Design	29OCT03	25NOV03												
2106	Procure Structure Tooling	26NOV03	17FEB04												
2112	Design Rollover Fixture	01DEC03	02MAR04												
2124	Design Solar Array 1 MGSE	07APR03	18APR03												
2127	Procure Solar Array 1 MGSE	21APR03	30MAY03												
2136	Solar Array 1 MGSE Ready	02JUN03	02JUN03												
2139	Design Solar Array 2 MGSE	01MAY03	30JUN03												
2142	Procure Solar Array 2 MGSE	01JUL03	18AUG03												
2148	Solar Array 2 MGSE Ready	19AUG03	19AUG03												
2166	Design X-Band 1 MGSE	01JUL03	30JUL03												
2169	Procure X-Band 1 MGSE	31JUL03	01DEC03												
2172	X-Band 1 MGSE Ready	02DEC03	02DEC03												
2181	Design X-Band 2 MGSE	01OCT03	30OCT03												
2184	Procure X-Band 2 MGSE	31OCT03	19FEB04												
S/C Electrical Power (EPS)															
2211	PDU Load Control Board Engineering Model	31JAN03	12JUN03												
2217	PDU Command & Telemetry Board Design/Developm	21OCT02	11MAR03												
2220	PDU Command & Telemetry Board Engineering Mode	12MAR03	07AUG03												



Rolling Wave Schedule

Activity ID	Activity Description	Start	Finish	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2226	PDU Charge Control Board Design/Development	21OCT02	18APR03												
2229	PDU Charge Control Board Engineering Model	21APR03	01AUG03												
2235	PDU Battery Bus Board Design/Development	21OCT02	19JUN03												
2238	PDU Battery Bus Board Engineering Model	20JUN03	28AUG03												
2244	PDU Backplane Design/Development	21APR03	23MAY03												
2247	PDU Backplane Engineering Model	27MAY03	24JUN03												
2253	PDU Engineering Model Assemble & Test	25JUN03	09SEP03												
2262	PRU VRB Design & Analysis	15JAN03	06MAR03												
2265	PRU VRB Engineering Model	07MAR03	29MAY03												
2541	PRU Filter Switch Board Design & Analysis	03FEB03	09MAY03												
2556	PRU Filter Switch Board Engineering Model	12MAY03	17JUN03												
2562	PRU Battery Cell Bypass Board Design & Analysis	03MAR03	02JUL03												
2565	PRU Battery Cell Bypass Board Engineering Model	03JUL03	21AUG03												
2571	PRU Signal Interface Board Design & Analysis	06JAN03	28MAR03												
2586	PRU Signal Interface Board Engineering Model	31MAR03	25APR03												
2592	PRU PIB Design & Analysis	06JAN03	01APR03												
2595	PRU PIB Engineering Model	02APR03	01MAY03												
2271	PRU Backplane Design & Analysis	27JAN03	25APR03												
2274	PRU Backplane Engineering Model	28APR03	17JUN03												
2280	PRU Engineering Model Assemble & Test	18JUN03	22SEP03												
2319	Definitize Subcontract for Cells/Laydown	31MAR03	31MAR03												
2328	Generate Requirements Spec	20DEC02	15APR03												
2331	Determine Flight Sep Connector Requirements	24MAR03	22APR03												
2337	Determine Component Connector Types/Sizes	24MAR03	22MAY03												
2334	Order Placed for Flight Sep Connectors	23APR03	23APR03												
2340	Collect/Process Component Pinout Info	09JUL03	08OCT03												
2343	Build Harness Database	09OCT03	02JAN04												
S/C Command & Data Handling (C&DH)															
2385	Develop C&DH Subsystem Requirements	30AUG02	16APR03												
2394	Definitize RAD750 Subcontract	14MAR03	14MAR03												
2397	RAD750 Proto Unit 1 Delivered	15OCT03	15OCT03												
2400	RAD750 Proto Unit 2 Delivered	15OCT03	15OCT03												
2424	ARM Design & Analysis	16DEC02	17APR03												
2427	ARM Engineering Models Development	30MAY03	05SEP03												
2433	GDE Design & Analysis	02JAN03	22APR04												
2436	GDE Engineering Models Development	17MAR03	09JUL03												
2442	GPIO Design & Analysis	25NOV02	02JUN03												
2445	GPIO Engineering Models Development	22MAY03	11SEP03												
2454	NVM Engineering Models Development	02JAN03	30JUN03												



Rolling Wave Schedule

Activity ID	Activity Description	Start	Finish	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2460	IPCU Design & Analysis	18FEB03	16MAY03												
2463	IPCU Engineering Models Development	19MAY03	25SEP03												
2469	PACI Design & Analysis	13JAN03	20JUN03												
2472	PACI Engineering Models Development	02JUN03	30SEP03												
2478	PDE Design & Analysis	16DEC02	04APR03												
2481	PDE Engineering Models Development	14MAR03	05NOV03												
2487	LGIO Design & Analysis	01OCT02	16MAY03												
2490	LGIO Engineering Models Development	28APR03	28AUG03												
2496	UDL Design & Analysis	01OCT02	10JUN03												
2499	UDL Engineering Models Development	21MAY03	23SEP03												
2505	cPCI Backplane Design & Analysis	27JAN03	19JUN03												
2508	cPCI Backplane Engineering Models Development	20JUN03	03SEP03												
2624	Create Box-Level Test Scripts for IEM	30JUL03	30SEP03												
2714	Integrate Backplane & Box (IEM)	29SEP03	30SEP03												
2674	Create Preliminary ATP for IEM	09OCT03	12DEC03												
2704	Integrate All Boards into Box (IEM)	06NOV03	11NOV03												
2644	Perform IEM Functional Tests	12NOV03	12DEC03												
S/C Flight Software															
2523	S/C FSW Preliminary Design Prep & Review	21JAN03	28APR03												
2526	S/C FSW Critical Design Prep & Review	29JUL03	03SEP03												
2538	Mission CSCI Build 1, 2, 3 & 4	13JAN03	18JUL03												
2550	ISM CSCI Build 1, 2 & 3	21JAN03	05MAY03												
2574	Code, Integ & Test Mission CSCI Build 1-SIM Supt	01NOV02	26MAR03												
2577	Code, Integ & Test Mission CSCI Build 2-GN&C Spt	22APR03	25OCT04												
3333	ISM CSCI Build 1 Integration & Test	06MAY03	01DEC03												
3336	ISM CSCI Build 2 Integration & Test	02DEC03	21SEP04												
S/C Guidance, Navigation & Control (GN&C)															
2655	Create APM PFS	06JAN03	31MAR03												
2658	Create APM SOW	06JAN03	31MAR03												
2661	Definitize APM Subcontract	01APR03	01APR03												
2679	Definitize Star Tracker Assy Subcontract	31MAR03	31MAR03												
2706	Create SIRU SOW	18NOV02	31MAR03												
2709	Definitize SIRU Subcontract	31MAR03	31MAR03												
2727	Definitize Magnetometer Subcontract	14MAR03	14MAR03												
2751	Definitize Coarse Sun Sensors Subcontract	26MAR03	26MAR03												
2823	Definitize GPS Nav Subcontract	25MAR03	25MAR03												
2847	Definitize Reaction Wheel Assy Subcontract	14MAR03	14MAR03												
2883	Definitize Torque Rods Subcontract	14MAR03	14MAR03												
2907	Develop SADA SOW	06JAN03	31MAR03												
2910	Develop SADA PFS	06JAN03	31MAR03												



Rolling Wave Schedule

Activity ID	Activity Description	Start	Finish	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2913	Definitize SADA Subcontract	01APR03	01APR03												
S/C Thermal Control (TCS)															
2964	Size Radiator & Heater - Preliminary	22NOV02	25MAR03												
2967	Generate Simple Geometric Models	29NOV02	20MAR03												
2970	Generate Simple Thermal Models	29NOV02	20MAR03												
2973	Perform Model Checks on Simple Models	21MAR03	23APR03												
2976	Create Prelim Temp Predictions w/Simple Models	21MAR03	23APR03												
2979	Create Basic Detailed Geometric Models	21MAR03	20JUN03												
2982	Create Basic Detailed Thermal Models	21MAR03	20JUN03												
2985	Sanity Checks on Detailed Models	23JUN03	22SEP03												
2988	Create Prelim Temp Predictions w/Detailed Models	23JUN03	22SEP03												
2991	Compare Results of Simple Mods to Detailed Mods	23JUN03	22SEP03												
3027	Update Radiator&Heater Sizes to Reflect Changes	17SEP03	14OCT03												
2994	Receive Initial Instrument Thermal Models/Data	18SEP03	18SEP03												
2997	Generate Initial Integrated Thermal Model	19SEP03	14OCT03												
3033	Create Thermal Results Matrix (Pre-CDR)	08OCT03	21OCT03												
3030	Sanity Checks on Revised Thermal Models	15OCT03	28OCT03												
3036	Create Prelim Thermal H/W Installation Specs	22OCT03	22DEC03												
3039	Finalize Component Temp Requirements	24NOV03	23FEB04												
3063	Definitize Heat Pipe Subcontract	15JUL03	15JUL03												
3066	Heat Pipe Delivery	28NOV03	28NOV03												
3069	Test Heat Pipe Subsystem	01DEC03	01DEC03												
3072	Heat Pipes Ready for Bus I&T		01DEC03												
S/C Electrical GSE (EGSE)															
3132	SAS Rack Development	19NOV02	07MAR03												
3129	MLS Rack Development	03MAR03	05MAY03												
3135	Design Hot Bench Rack	20JUN03	08SEP03												
3138	Design Hot Bench Cables	01AUG03	18SEP03												
3144	Build Hot Bench Cables	21NOV03	30JAN04												
3141	Build Hot Bench Rack	21NOV03	04FEB04												
3147	Develop Hot Bench Utility Panels	23DEC03	04FEB04												
3150	Design Test Harness	21JUL03	19SEP03												
3153	Build S/C Sim Test Harness	22SEP03	06NOV03												
3156	Checkout System Test Harness	07NOV03	20NOV03												
3159	S/C System Test Harness Ready		20NOV03												
3162	Design TAC Transition Modules	27OCT03	13FEB04												
3165	Design TAC Cables	27OCT03	13FEB04												
3183	Design Umbilical Transition Modules	27OCT03	13FEB04												
3186	Design Umbilical Cables	27OCT03	13FEB04												
3234	Build S/C EGSE Simulator	27NOV02	31MAR03												
S/C Simulators															
3249	S/C Sim (SIIS) Functional Test	18NOV02	28MAR03												
3240	Develop FSW Interface Drivers for S/C Sim (SIIS)	25NOV02	31MAR03												
3243	Develop FSW Science Data Task for S/C Sim (SIIS)	25NOV02	31MAR03												
3246	EGSE Sim H/W Configuration & Checkout	16DEC02	14MAR03												
3252	Pack & Ship S/C Sim (SIIS)	31MAR03	04APR03												
3255	S/C Sim (SIIS) Deliver to GBM	07APR03	07APR03												
3258	Software Updates to S/C Sim (SIIS) #1	08APR03	07MAY03												
3261	S/C Sim (SIIS) Deliver to LAT	07MAY03	07MAY03												

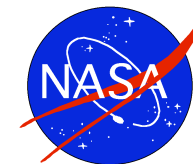


Rolling Wave Schedule

Activity ID	Activity Description	Start	Finish	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
DLV Launch Services				2003											
Coupled Loads Analysis															
Early CLA Cycle (Post GBM & LAT PDR)															
0639	(KSC/B) Create Launch Config CB Model & LTM	21FEB03	28MAR03												
0645	(KSC/B) Forcing Func's to Launch Config CB Model	31MAR03	07APR03												
0651	(KSC/B) Apply LTM to CB Model Results(For LAT)	08APR03	16APR03												
0822	KSC Deliver CB/LTM to GSFC Contracts	17APR03	17APR03												
0870	GSFC Contracts Deliver CB/LTM to S/C & Code 542	18APR03	18APR03												
0657	(KSC/B) Deliv Prelim CLA Results to GSFC & S/C	21APR03	21APR03												
0663	(GSFC) Data Post-Processing	22APR03	15MAY03												
0843	(KSC/B) Deliver Final CLA Report & Results	22APR03	01JUL03												
0666	(GSFC) Data Extraction	16MAY03	11JUN03												
0846	(GSFC) Revisit Data Processing & Data Extraction	02JUL03	05AUG03												
0669	(GSFC) Write GBM&LAT Interest Data Memo Results	06AUG03	21AUG03												
0672	(GSFC) Deliv GBM&LAT Interest Data Memo Results	22AUG03	22AUG03												
PDR CLA Cycle(Post GBM&LAT CDR,Post PDR S/C)															
0837	LAT CDR Model Updates	25AUG03	29AUG03												
0678	(SLAC) Deliv LAT CDR Dynamics Model to GSFC	02SEP03	02SEP03												
0681	(GSFC)Translate LAT Mod w/FEMAP,ANSYS to NAS	03SEP03	10SEP03												
0684	(GSFC) Check LAT NASTRAN Model	11SEP03	16SEP03												
0687	(GSFC) Reduce LAT NASTRAN Model to CB Model	17SEP03	02OCT03												
0690	(GSFC) Create LAT LTM	03OCT03	21OCT03												
0693	(GSFC) Check LAT LTM & LAT CB Model	22OCT03	24OCT03												
0810	GSFC Doc & Deliver LAT CB/LTM to GSFC Contracts	27OCT03	30OCT03												
0819	GSFC Contracts Deliver LAT CB/LTM to S/C	31OCT03	03NOV03												
0675	(MSFC) Deliv CDR Level GBM FEM Mod/Info to GSFC	28NOV03	28NOV03												



Technical Performance Metrics



TPM	Rqmt	Feb 2003 Performance	Mar 2003 Performance	Compliance & Margin	Trend
Obs. Mass (kg)	4627	4473 ⁸	TBD ¹⁰	TBD	□
S/C Mass (kg)	1530	1376.1 ⁸	TBD ¹⁰	TBD	□
Obs. Axial Center of Gravity (m)	1.37	1.35	TBD ¹⁰	TBD	□
Obs. MOI	Note 4	Same	TBD ¹⁰	TBD	□
S/C Reliability @ 5 years	0.85	0.9072	TBD ¹⁰	TBD	□
Obs. Launch/Ascent Mode OAP (W)	733	597.8 ⁸	TBD ¹⁰	TBD	□
Obs. Eng/Sky Survey Mode OAP (W)	1728	1512.6 ⁸	TBD ¹⁰	TBD	□
Obs. Pointed/Repointed Mode OAP (W)	1728	1466.2 ⁸	TBD ¹⁰	TBD	□
Obs. Safe Mode OAP (W)	1728	1000.6 ⁸	TBD ¹⁰	TBD	□
Attitude Control (deg.)	2.0	0.32	0.32	6.3 X	□
LAT Pointing Knowledge (arcsec)	6.0	2.9	2.9	2.1 X	□
GBM Pointing Knowledge (arcmin)	5.0	1.7	1.7	2.9 X	□
Attitude Jitter (arcsec)	1.0	0.1	0.1	10.0 X	□
Position Knowledge (km)	3.3	1.0	1.0	3.3 X	□
% Data Loss	2.0%	Being Worked ²	Being Worked ²		□
Alert Acq Latency (sec)	7	6.5 ³	6.5 ³	7.7%	□
X-band D/L [20 Mbps] (dB)	3	3.7 ⁷	5.1 ¹²	2.1 dB	↑
S-Band U/L [GN 2 kbps] (dB)	0	41.3	38.1 ¹²	38.1 dB	□
S-band D/L [GN 2.5 Mbps] (dB)	0	7.2	5.9 ¹²	5.9 dB	↑
S-band Fwd [TDRSS 250 bps MA] (dB)	0	1.9	3.5 ¹²	3.5 dB	↑
S-band Rtn [TDRSS 1 kbps MA] (dB)	0	0.6	1.2 ¹²	1.2 dB	↑
S-band Fwd [TDRSS 4 kbps SA] (dB)	0	4.4	5.5 ¹²	5.5 dB	↑
S-band Rtn [TDRSS 1 kbps SA] (dB)	0	8.8	10.3 ¹²	10.3 dB	↑
CPU Throughput (MIPS)	11.6	240	240	95.2%	□
Onboard HK Storage (Gbits)	4.15	5.76	5.76	38.8%	□
Onboard Science Storage (Gbits)	42.3	90.24 ⁹	90.24 ⁹	113.3%	□
Propellant Capacity (kg)	284.4	345.5	352 ¹¹	23.8%	↑




Footnotes are
Included on the
Following Page

The
Computational
Method for
Predicting % Data
Loss is Still in
Work



TPM: Key

► *Metrics Evaluated For Compliance and Trend Based on the Following Color Scheme:*

Compliance	
	Metric Within Requirement and Allocation
	Metric Within Mission Requirement, Exceeds Allocation
	Metric Exceeds Requirement
Trend	
↑	Metric Trend is Towards Greater Margin
▬	No Change From Previous Month
▮	Metric Trend is Towards Less Margin

• Notes:

2: Uses Allocated Values For Op Error, Sys Unavail, and Tx Losses (Obs Alloc is 0.1%)

3: Uses Allocated Values For Space-Gnd and Gnd-GCN Allocations (S/C Alloc is 1 sec.)

4: Max. Inertia Tensor (Before Reassessment of Slew Times is Req'd) =

(kg.m ²)				
Ixx Ixy Ixz	[5.1173018e+03	-3.5898097e-01	-6.5829738e+00]
Iyx Iyy Iyz	[-3.5898097e-01	3.2600578e+03	-2.5818596e+00]
Izx Izy Izz	[-6.5829738e+00	-2.5818596e+00	4.1715819e+03]

8: Mass and Power Changes Due to ICCR

9: Mod to Increase SSR Capacity to 96 Gbit BOL (From 64 Gbit)

10: Mass and Power Will Be Updated at PDR Following Non-ICCR Architecture Freeze

11: Propellant Changes Due to Refinement of Analysis to a More Nominal Configuration

12: All RF Link Calculations Scrubbed at February Peer Review



S/C PDR DRY RUN #2 AGENDA (1/5)



DAY 1, Monday 4/21/03				
Start Time	Allocated Time	Topic	Presenter	Sow Required Items
Overview				
1:00 PM	10	Welcome	Dave O./Kevin Grady/Chris	
1:10 PM	45	Introduction - Presentation Purpose - Reviewer Purpose - Objectives and Success Criteria - SRR RFAs (Corrective Action/Resolution Taken)	Chris Clark	All action items, collected at the previous review, shall be presented w/ the corrective action, or resolution, taken; Closure of Action Items From SRR
1:55 PM	15	Schedule	Chris Clark	Schedules
2:10 PM	30	Spectrum Astro Systems Engineering - SE Process (and Relationship to GPO) - System Documentation - Mission Interfaces - Changes Since SRR - Verification, Interface Development	Jordan Evans	
Break				
2:40 PM	0	Break		
Mission Architecture				
2:40 PM	45	Mission Architecture - Architecture Overview - Requirements Overview - Mission Resources and Budgets - Mission Level Operations Concept	Jordan Evans	System Resource Allocations, System Error Budgets (and Budget Determination); Science and Technical Objectives, Requirements, General Specification; Performance Requirements; System Performance Budgets
Spacecraft Architecture				
3:25 PM	45	Spacecraft Architecture Overview - Spacecraft Layout - Spacecraft Modes - Safe Modes - Changes Since SRR - Subsystem Development Process - Peer rws etc.	Kendall Nii	Mass, Power, Volume Estimates; SC Error Budgets (and Budget Determination); Redundancy; Block Diagram; Performance Requirements
Lunch				
4:10 PM	0	Lunch		
Spacecraft Architecture (Cont.)				
4:10 PM	45	Instrument Accommodations - Instrument Interfaces - ICD Development Status - Changes Since SRR	Tim Morse	Interface Requirements
4:55 PM	0	Adjourn	-	



S/C PDR DRY RUN #2 AGENDA (2/5)



DAY 2, Tuesday 4/22/03				
Start Time	Allocated Time	Topic	Presenter	Sow Required Items
8:00 AM	20	Mission Analysis and Controlled Re-Entry Overview	Jim Howe	Orbital Debris Assessment; De-orbit Strategy; Flight Dynamics, Orbit Insertion, Maintenance, Disposal
8:20 AM	60	Structures and Mechanisms Subsystem	Scott Dow	Mechanical/Structural Design, Analyses, Life Tests; Optical/Radiometric Design and Analyses (FOVs); Qualification and Environmental Test Plans and Test Flow at the Box and Subsystem Levels; Component List and Flight Heritage; Specific Analysis and Margins
Break				
9:20 AM	0	Break		
Spacecraft Architecture, Cont...				
9:20 AM	45	Thermal Control Subsystem	Aaron Gilchrist	Thermal Design and Analyses; Qualification and Environmental Test Plans and Test Flow at the Box and Subsystem Levels; Component List and Flight Heritage; Specific Analysis and Margins: Thermal Flight Predictions; Estimates of Weight, Power, Volume and th
10:05 AM	60	Electrical Power Subsystem	Robb Pinkerton	Electrical/Power Design and Analyses; Qualification and Environmental Test Plans and Test Flow at the Box and Subsystem Levels; Component List and Flight Heritage; Specific Analysis and Margins: Power Balance (EOL and Battery DOD); Estimates of Weight, Po
Lunch				
11:05 AM	30	Lunch		
Spacecraft Architecture, Cont...				
11:35 AM	120	Command and Data Handling Subsystem	Nick Gaudio	Design; Qualification and Environmental Test Plans and Test Flow at the Box and Subsystem Levels; Component List and Flight Heritage; Specific Analysis and Margins: Data Flow, Storage, and Loading; Estimates of Weight, Power, Volume and the Basis for The



S/C PDR DRY RUN #2 AGENDA (3/5)



Spacecraft Architecture, Cont...				
1:35 PM	90	Guidance, Navigation, and Control Subsystem	Igor Lazbin	Design and Analysis; Safehold Design and Analysis; Qualification and Environmental Test Plans and Test Flow at the Box and Subsystem Levels; Component List and Flight Heritage; Specific Analysis and Margins: GN&C Pointing Budgets Including Attitude Control
3:05 PM	60	Flight Software Subsystem	Cyp Colbert	Requirements, Design, Structure, Logic Flow Diagrams, CPU Loading, Design Language and Development Systems; Design/Analysis/Development Process; Qualification Test Plans and Test Flow at the "Box" and Subsystem Levels; "Component" List and Flight Heritage
4:05 PM	60	Communications Subsystem	Mark Carlson	Design; Qualification and Environmental Test Plans and Test Flow at the Box and Subsystem Levels; Component List and Flight Heritage; Specific Analysis and Margins: Communication Links; Estimates of Weight, Power, Volume and the Basis for The Estimates; P
5:05 PM	0	Adjourn	-	



S/C PDR DRY RUN #2 AGENDA (4/5)



DAY 3, Wednesday 4/23/03				
Start Time	Allocated Time	Topic	Presenter	Sow Required Items
8:00 AM	45	Propulsion Subsystem	Ken Behring	Design; Qualification and Environmental Test Plans and Test Flow at the Box and Subsystem Levels; Component List and Flight Heritage; Specific Analysis and Margins: Disposal; Estimates of Weight, Power, Volume and the Basis for The Estimates; Performance
8:45 AM	30	Fault Management Approach	Scott Fallek	Overview of Observatory Fault Management Architecture; Safehold Design; Preliminary List of Unique or Additional Telemetry Points For Monitoring De-Orbit and Anomaly Resolution
Integration and Test				
9:15 AM	20	MGSE	Scott Dow	Ground Support Equipment Design
9:35 AM	30	EGSE & I&T Software	Tim Irwin	Ground Support Equipment Design
10:05 AM	30	Simulators	Roger Jellum	SIISs, Moc Sims, etc.
10:35 AM	60	Spacecraft and Observatory I&T	Ron Zitek	SC and Obs Design Verification, Test Flow, Calibration, and Test Plans, Qualification and Environmental Test Plans and Test Flow at the SC and Obs Level
11:35 AM	20	Shipping and Handling	Ron Zitek	Plans for Shipping Containers, Environmental Control and Mode of Transportation
Break				
11:55 AM	0	Break		
Launch Site and On-Orbit				
11:55 AM	20	Launch Vehicle Integration - Documentation - Interfaces - Launch Site Processing	Bob Hunley	LV Interfaces and Drivers
Lunch				
12:15 PM	30	Lunch		



S/C PDR DRY RUN #2 AGENDA (5/5)



Launch Site and On-Orbit, Cont...				
12:45 PM	60	Observatory Operations Concept and On-Orbit Verification - Mission Modes - Contacts - ICD Development Status	Ken Lewis	Interface Requirements (GN, SN, MOC); Observatory Operations Concept; Design Verification, Test Flow, Calibration, and Test Plans
1:45 PM	30	EMI/EMC - Environments - Tests - Design Requirements	Joe Chott	Specific Analysis and Margins: EMC, Magnetics
Lunch				
2:15 PM	45	Lunch		
Mission Assurance				
3:00 PM	15	Observatory System Safety	Bob Hunley	Safety Hazards Identified for Flight, Range, Ground Hardware and Operations
3:15 PM	20	Observatory Mission Assurance - QA	Mike Estipona	Quality Control
3:35 PM	50	Observatory Mission Assurance - Specialty Engineering - FMEA, PRA, FTA, Reliability, Contamination	Mark Porter	Parts Selection, Qualification, and FMEA Plans; De-Rating Criteria; Radiation Hardness; Identification of Single Point Failure Modes and Critical Design Areas Which May Be Life Limiting; EEE Parts Checklist; Contamination Requirements and Control Plan; Re
Closing Assessments				
4:25 PM	30	Spectrum Astro Risk Assessment	Jordan Evans	Risk Status, Analysis, and Mitigation
4:55 PM	15	Spectrum PM Assessment	Chris Clark	Problem Areas and Open Items
5:10 PM	0	Adjourn	-	